

What is claimed is:

1. A method of managing an ATM, comprising:

providing a processor adapted to be coupled to an ATM, the ATM including a receptacle configured to retain a range of currency amounts between and including an empty currency amount and a full currency amount;

receiving first data from the ATM, wherein the first data corresponds to a first amount of currency in the receptacle between the empty currency amount and the full currency amount;

storing the first data in a memory associated with the processor;

receiving a transaction request at the ATM;

changing the first amount of currency in the receptacle to a second amount of currency in response to the transaction request, wherein the second amount of currency in the receptacle is between the empty currency amount and the full currency amount;

receiving second data from the ATM, the second data corresponding to the second amount of currency in the receptacle;

storing the second data in the memory associated with the processor;

receiving a query for at least one of the first data and the second data; and

outputting data corresponding to the at least one of the first data and the second data in response to the query.

2. The method as claimed in claim 1, further comprising:

receiving additional transaction requests at the ATM;

changing currency amounts in the receptacle to different currency amounts in response to at least some of the additional transaction requests;

receiving additional data from the ATM, the additional data corresponding to the different currency amounts;

storing the additional data in the memory associated with the processor;

receiving a query for at least one of the first data, the second data, and the additional data; and

outputting data corresponding to the at least one of the first data, the second data, and the additional data.

3. The method as claimed in claim 2, wherein receiving additional data from the ATM occurs during each transaction performed by the ATM.

4. The method as claimed in claim 2, wherein receiving additional data from the ATM occurs after each transaction performed by the ATM.

5. The method as claimed in claim 2, wherein receiving additional data from the ATM occurs during at least some transactions performed by the ATM.

6. The method as claimed in claim 2, further comprising:
receiving a query for a history of currency amounts in the ATM; and
outputting data corresponding to the history of currency amounts at the ATM.

7. The method as claimed in claim 2, wherein the processor is coupled to a plurality of ATMs, the method further comprising repeating all receiving, storing, and changing steps for each of the plurality of ATMs.

8. The method as claimed in claim 7, wherein the query is a query for at least one of the first data, the second data, and the additional data of at least some of the plurality of ATMs.

5 9. The method as claimed in claim 8, wherein:
receiving a query includes receiving a query for a history of currency amounts in at least some of the plurality of ATMs; and
outputting data includes outputting data corresponding to the history of currency amounts in the at least some of the plurality of ATMs.

10 10. The method as claimed in claim 1, wherein:
the receptacle is one of at least two receptacles configured to retain respective ranges of currency amounts between and including respective empty currency amounts and full currency amounts; and

15 the first and second data further correspond respectively to first and second amounts of currency in each receptacle between the empty currency amounts and the full currency amounts.

20 11. The method as claimed in claim 1, wherein:
receiving a query includes receiving a query for a history of currency amounts in the ATM; and
outputting data includes outputting data corresponding to the history of currency amounts in the ATM.

25 12. The method as claimed in claim 11, wherein the query is a query for data corresponding to a plurality of successive transactions performed by the ATM.

13. The method as claimed in claim 10, wherein the query is a query for data corresponding to all transactions performed by the ATM over a period of time.

14. The method as claimed in claim 1, wherein:

the query is a query for a total amount of currency in the ATM; and
outputting data includes outputting the total amount of currency in the ATM.

15. The method as claimed in claim 1, wherein:

the receptacle is one of at least two receptacles of the ATM; and
the query is a query for a total amount of currency in each of the at least two receptacles of the ATM; and
outputting data includes outputting data representative of the total amount of currency in each of the at least two receptacles.

16. The method as claimed in claim 1, wherein the currency is one of cash, stamps, and tickets.

17. The method as claimed in claim 1, wherein the first and second data represent a net amount of currency dispensed from the ATM.

18. The method as claimed in claim 1, wherein the first and second data represent an amount of currency remaining in the ATM.

19. The method as claimed in claim 1, wherein the first and second data include data identifying the ATM.

20. The method as claimed in claim 19, wherein the data identifying the ATM includes location information of the ATM.

21. The method as claimed in claim 1, wherein the second data includes data identifying the user from which the transaction is requested.

22. The method as claimed in claim 1, wherein:
the processor is a processor of a service provider;
the query is received from a computer of a customer of the service provider;
and
the computer is remote from the processor of the service provider.

23. A method of managing an ATM, comprising:
receiving multiple transaction requests at the ATM;
changing an amount of currency in the ATM in response to at least some of the multiple transaction requests;
receiving data corresponding to a plurality of different currency amounts from the ATM over a period of time, wherein the plurality of different currency amounts are each greater than zero;
receiving a query for an amount of currency in the ATM at a given time in the period of time; and
outputting data representative of the amount of currency in the ATM at the given time, the amount of currency being one of the plurality of different currency amounts.

24. The method as claimed in claim 23, wherein the given time is a present time.

25. The method as claimed in claim 23, wherein the given time is a past time.

26. The method as claimed in claim 23, further comprising receiving data representative of the currency existing in the ATM at the given time.

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27. The method as claimed in claim 26, wherein the data representative of the currency existing in the ATM at the given time is received from the ATM after receiving the query.

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28. The method as claimed in claim 26, further comprising storing the data corresponding to the plurality of different currency amounts in a memory.

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29. The method as claimed in claim 28, wherein the data corresponding to the plurality of different currency amounts is stored at a plurality of different times corresponding to different transactions at the ATM.

30. The method as claimed in claim 28, wherein the data corresponding to the plurality of different currency amounts is stored at a plurality of different times following transactions at the ATM.

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31. The method as claimed in claim 28, wherein the data representative of the currency existing in the ATM at the given time is received from the memory.

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32. The method as claimed in claim 23, wherein the query is part of a query for data representing a history of currency amounts in the ATM.

33. The method as claimed in claim 32, wherein:

the query for data is a query for data representing a history of currency amounts in the ATM over a plurality of successive transactions performed by the ATM; and

outputting data includes outputting data representative of the amount of currency in the ATM following each transaction in the plurality of successive transactions.

33. The method as claimed in claim 32, wherein:

the query for data is a query for data representing a history of currency amounts in the ATM over a period of time; and

outputting data includes outputting data representative of the amount of currency in the ATM over the period of time.

34. The method as claimed in claim 23 for use in managing a plurality of ATMs, the method further comprising:

receiving multiple transaction requests at each of the plurality of ATMs;

changing amounts of currency in the plurality of ATMs in response to at least some of the multiple transaction requests at the plurality of ATMs;

receiving data corresponding to a plurality of different currency amounts from each ATM over a period of time, wherein the plurality of different currency amounts are each greater than zero;

receiving a query for an amount of currency in at least one of the plurality of ATMs at a given time in the period of time; and

outputting data representative of the amount of currency in the at least one of the plurality of ATMs at the given time, the amount of currency being one of the plurality of different currency amounts.

35. The method as claimed in claim 34, wherein the query is part of a query for data representing a history of currency amounts in at least some of the plurality of ATMs.

5 36. The method as claimed in claim 23, wherein:
the ATM has a plurality of receptacles in which currency is retained;
changing an amount of currency includes changing amounts of currency in the plurality of receptacles in response to at least some of the multiple transaction requests;

10 receiving data includes receiving data corresponding to a plurality of different currency amounts in the plurality of receptacles over a period of time, wherein the plurality of different currency amounts are each greater than zero; and

outputting data includes outputting data representative of the amounts of currency in the plurality of receptacles at the given time.

15 37. The method as claimed in claim 37, wherein the currency is at least one of cash, stamps, and tickets.

20 38. The method as claimed in claim 23, wherein the data corresponding to a plurality of different currency amounts is representative of amounts of currency dispensed from the ATM.

39. The method as claimed in claim 38, wherein:

25 the data corresponding to a plurality of different currency amounts is represented as a plurality of negative numbers; and

the different amounts of currency are greater than zero.

40. The method as claimed in claim 23, wherein the data corresponding to a plurality of different currency amounts is representative of currency amounts remaining in the ATM.

5 41. The method as claimed in claim 23, further comprising receiving data identifying the ATM with the data corresponding to the plurality of different currency amounts.

10 42. The method as claimed in claim 41, wherein the data identifying the ATM includes location information of the ATM.

15 43. The method as claimed in claim 23, further comprising receiving data identifying users of the ATM with the data corresponding to the plurality of different currency amounts.

44. The method as claimed in claim 23, wherein:
the data corresponding to a plurality of different currency amounts is received by a processor of a service provider servicing the ATM;

the query is made by a computer of a customer of the service provider;

20 the computer of the customer is remote from the processor of the service provider; and

outputting data representative of the amount of currency in the ATM includes sending the data representative of the amount of currency in the ATM from the processor of the service provider to the computer of the customer.

25 45. A system for managing an ATM, the system comprising:

a processor adapted to be coupled to the ATM for receiving data from the ATM, wherein the data corresponds to a plurality of different currency amounts in the ATM, the plurality of different currency amounts including a range of currency amounts between an empty currency amount and a full currency amount;

5 a memory associated with the processor, wherein the processor is configured to store the data received from the ATM in the memory; and

a user interface operable with the processor, the user interface operable to accept a query from a user for data corresponding to at least one of the plurality of different currency amounts and to output data corresponding to the at least one of the plurality of different currency amounts to the user.

10 46. The system as claimed in claim 45, wherein the data corresponding to the plurality of different currency amounts in the ATM is a plurality of different currency amounts in the ATM over a period of time.

15 47. The system as claimed in claim 46, wherein the processor is configured to receive and store data corresponding to each of the different currency amounts during each transaction performed by the ATM.

20 48. The system as claimed in claim 46, wherein the processor is configured to receive and store data corresponding to each of the different currency amounts after each transaction performed by the ATM.

25 49. The system as claimed in claim 46, wherein the processor is configured to receive and store data corresponding to each of the different currency amounts during at least some transactions performed by the ATM.

50. The system as claimed in claim 45, wherein the processor is responsive to a query for a history of currency amounts in the ATM by retrieving a plurality of currency amounts from the memory corresponding to parameters of the query.

5 51. The system as claimed in claim 50, wherein the parameters of the query are a number of successive transactions performed by the ATM.

52. The system as claimed in claim 51, wherein the parameters of the query are all transactions performed by the ATM over a period of time.

10 53. The system as claimed in claim 45, wherein:

the processor is adapted to be coupled to a plurality of ATMs for receiving data from the ATMs;

15 the data corresponds to a plurality of different currency amounts in the ATMs, the plurality of different currency amounts each including a range of currency amounts between an empty currency amount and a full currency amount;

the processor is configured to store the data received from the ATMs in the memory; and

20 the user interface is operable to accept a query from a user for data corresponding to at least one of the plurality of different currency amounts of the ATMs and to output data corresponding to the at least one of the plurality of different currency amounts of the ATMs to the user.

25 54. The system as claimed in claim 53, wherein the processor is responsive to a query for a history of currency amounts in at least two ATMs by retrieving a plurality of currency amounts from the memory corresponding to parameters of the query.

55. The system as claimed in claim 45, wherein:

the ATM has at least two receptacles within which currency is received; and
the data received from the ATM corresponds to amounts of currency in the at
least two receptacles.

5 56. The system as claimed in claim 45, wherein the processor is responsive to a
query for a current amount of currency in the ATM by retrieving from the memory
data corresponding to a most recent currency amount received by the processor.

10 57. The system as claimed in claim 55, wherein the processor is responsive to a
query for a current amount of currency in each of the at least two receptacles by
retrieving from the memory data corresponding to most recent currency amounts
received by the processor.

15 58. The system as claimed in claim 45, wherein the ATM is adapted to retain
currency in the form of at least one of cash, stamps, and tickets.

59. The system as claimed in claim 45, wherein the data output by the user
interface is representative of an amount of currency dispensed by the ATM.

20 60. The system as claimed in claim 45, wherein the data output by the user
interface is representative of an amount of currency remaining in the ATM.

61. The system as claimed in claim 45, wherein the processor is responsive to the
query from the user by retrieving from the memory data identifying the ATM.

25 62. The system as claimed in claim 61, wherein the data identifying the ATM
includes data identifying a location of the ATM.

63. The system as claimed in claim 45, wherein the processor is responsive to the query from the user by retrieving from the memory data identifying at least one transaction performed at the ATM.

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64. The system as claimed in claim 63, wherein the data identifying at least one transaction performed at the ATM includes data identifying a user of the ATM in each transaction.

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65. The system as claimed in claim 45, wherein:

the processor is a processor of a service provider for the ATM;

the user is a customer of the service provider; and

the user interface is a user interface of the customer, the user interface at least partially defining a computer of the customer remote from the service provider,

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the processor responsive to the query from the customer by sending data corresponding to the at least one of the plurality of different currency amounts to the user interface of the customer.

66. A method of managing an ATM, comprising:

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providing a processor configured to establish communication with at least one courier service and with at least one ATM;

retrieving data corresponding to at least one courier service, wherein the data includes courier information and schedule information of the courier;

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sending from the ATM to the processor at least one of data corresponding to currency amounts in the ATM and status signals corresponding to ATM operation;

updating the schedule information of the courier in response to at least one of the data received and the status signals received by the processor; and

sending the updated schedule information from the processor to the at least one courier.

67. The method as claimed in claim 66, wherein retrieving data corresponding to the at least one courier service includes retrieving courier information and schedule information of the courier from a memory coupled to the processor.

68. The method as claimed in claim 66, wherein retrieving data corresponding to the at least one courier service includes sending courier information and schedule information of the courier from a computer of the courier to the processor.

69. The method as claimed in claim 66, further comprising saving in a memory coupled to the processor the at least one of data corresponding to currency amounts in the ATM and status signals corresponding to ATM location.

70. The method as claimed in claim 66, further comprising displaying the schedule information of the courier, wherein updating the schedule information includes inputting changes to a courier schedule via a user interface coupled to the processor.

71. The method as claimed in claim 66, wherein updating the schedule information of the courier occurs automatically responsive to sending the at least one of data corresponding to currency amounts in the ATM and status signals corresponding to ATM operation.

72. The method as claimed in claim 66, wherein:

the processor is a host computer of a service provider configured to establish communication with at least one customer's computer;

data corresponding to the at least one courier service is retrieved by the at least one customer's computer; and

the schedule information of the courier is updated by the customer at the customer's computer; the method further comprising:

5 sending from the processor to the customer's computer the at least one of data corresponding to currency amounts in the ATM and status signals corresponding to ATM operation; and

 sending the updated schedule information from the customer's computer to the processor.

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73. The method as claimed in claim 66, wherein the data corresponding to currency amounts in the ATM includes data representative of the total currency in the ATM.

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74. The method as claimed in claim 66, wherein:

 the ATM has at least two receptacles within which currency is retained; and

 the data corresponding to currency amounts in the ATM includes data representative of the total currency in the at least two receptacles.

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75. The method as claimed in claim 66, wherein the status signals corresponding to ATM operation include a signal indicating whether the ATM is operational.

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76. The method as claimed in claim 66, wherein updating the schedule information of the courier includes changing at least one of a time, day, and date of courier service of the ATM.

77. The method as claimed in claim 66, wherein updating the schedule information of the courier includes assigning the ATM to a different route of the courier.

5 78. A method of balancing an ATM, the method comprising:

providing a processor adapted to be coupled to an ATM;

sending data corresponding to at least one currency amount in the ATM from the ATM to the processor, wherein the at least one currency amount is calculated by the ATM;

10 sending the data corresponding to the at least one currency amount in the ATM to a user interface for display to a user;

displaying the data to the user via the user interface;

counting at least one amount of currency retrieved from the ATM;

15 comparing the data corresponding to the at least one currency amount calculated by the ATM to the at least one amount of currency retrieved from the ATM; and

calculating a difference between the at least one currency amount calculated by the ATM and the at least one amount of currency retrieved from the ATM, wherein the difference is one of a negative amount, a positive amount, and zero.

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79. The method as claimed in claim 78, wherein the data sent to the ATM is data representative of a total currency amount in the ATM calculated by the ATM.

80. The method as claimed in claim 78, wherein:

25 the ATM has at least two receptacles within which currency is received; and

the data sent to the ATM is data representative of currency totals for the at least two receptacles.

81. The method as claimed in claim 78, further comprising:

storing the data corresponding to the at least one currency amount in the ATM
in a memory associated with the processor; and

5 retrieving the data corresponding to the at least one currency amount in the
ATM from the memory associated with the processor.

82. The method as claimed in claim 78, further comprising sending additional data
corresponding to a plurality of additional currency amounts in the ATM from the
10 ATM to the processor, wherein the additional currency amounts are calculated by the
ATM.

83. The method as claimed in claim 82, wherein the data corresponding to the at
least one currency amount and the data corresponding to the plurality of additional
15 currency amounts are sent to the processor following corresponding transactions
performed by the ATM.

83. The method as claimed in claim 82, wherein the data corresponding to the at
least one currency amount and the data corresponding to the plurality of additional
20 currency amounts are sent to the processor during corresponding transactions
performed by the ATM.

84. The method as claimed in claim 78, wherein the data corresponding to the at
least one currency amount in the ATM is representative of an amount of currency
25 dispensed from the ATM.

85. The method as claimed in claim 78, wherein the data corresponding to the at least one currency amount in the ATM is representative of an amount of currency remaining in the ATM.

5 86. The method as claimed in claim 78, further comprising:

sending to the processor data corresponding to at least one transaction performed by the ATM;

sending the data corresponding to the at least one transaction performed by the ATM to the user interface for display to a user;

10 receiving a command by the user via the user interface to display data corresponding to a selected transaction;

displaying the data corresponding to the selected transaction and an option for processing an exception for the selected transaction;

15 receiving a command by the user via the user interface to process an exception for the selected transaction; and

processing an exception for the selected transaction.

87. The method as claimed in claim 78, wherein:

the processor is a processor of a service provider;

20 the user is a customer of the service provider; and

the user interface is remote from the processor.

88. A method of determining profitability of an ATM, comprising:

providing a processor adapted to be coupled to the ATM;

25 sending from the ATM to the processor data representative of financial transactions performed by the ATM;

storing the data representative of the financial transactions in a memory associated with the processor;

receiving at the processor data representative of operating costs associated with operation of the ATM;

5 calculating a cost associated with operating the ATM for a period of time, the cost based at least in part upon the data representative of the operating costs associated with operation of the ATM;

calculating a revenue generated by the ATM for a period of time, the revenue based at least in part upon the data representative of the financial transactions; and

10 outputting the profitability of the ATM, the profitability based upon the calculated cost and the calculated revenue.

89. The method as claimed in claim 88, further comprising retrieving data representative of operating costs associated with operation of the ATM from another memory associated with the processor.

90. The method as claimed in claim 88, further comprising retrieving data representative of operating costs associated with operation of the ATM from the memory associated with the processor.

20 91. The method as claimed in claim 88, wherein the data representative of operating costs includes data representative of telecommunications costs for operating the ATM.

25 92. The method as claimed in claim 88, wherein the data representative of operating costs includes data representative of courier costs for servicing the ATM.

93. The method as claimed in claim 88, wherein the data representative of operating costs includes data representative of costs for maintenance of the ATM.

94. The method as claimed in claim 88, wherein the data representative of operating costs includes data representative of costs of cash for the ATM.

95. The method as claimed in claim 88, wherein the data representative of operating costs includes data representative of the cost of the ATM.

96. The method as claimed in claim 88, wherein the data representative of operating costs includes data representative of ATM installation costs for the ATM.

97. The method as claimed in claim 88, wherein the data representative of operating costs includes data representative of administrative costs for operating the ATM.

98. The method as claimed in claim 97, wherein the administrative costs for operating the ATM include network fees for the ATM.

99. The method as claimed in claim 88, wherein:
the ATM performs a number of transactions over a period of time; and
the data representative of the financial transactions includes the number of transactions performed by the ATM.

100. The method as claimed in claim 88, wherein the data representative of the financial transactions includes an amount of ATM fees generated by the ATM.

101. The method as claimed in claim 88, further comprising performing the sending, storing, receiving, and both calculating steps for a plurality of ATMs to determine profitability of a group of ATMs.

- 5 102. The method as claimed in claim 88, wherein the processor is adapted to be coupled to a user interface, the method further comprising prompting a user to input via the user interface data representative of operating costs associated with operation of the ATM.